Acta Zootaxonomica Sinica 35 (2): 313-318 (Apr, 2010) ISSN 1000-0739
动物分类学报

DESCRIPTION OF *EUTETRAPHA LINI* SP. NOV. FROM TAIWAN, CHINA (COLEOPTERA, CERAMBYCIDAE, LAMIINAE, SAPERDINI)

CHOU Wen-I[1, 2], CHUNG Yi-Ting[3], LIN Mei-Ying[1*]
1. *Key Laboratory of Zoological Systematics and Evolution, Institute of Zoology, Chinese Academy of Sciences, Beijing 100101, China*
2. *Department of Recreation Business Management, De-Lin Institute of Technology, Taipei County 23654, Taiwan*
3. *Mr. Shell Ecological Company, Ping-tung County 91243, Taiwan*

Abstract *Eutetrapha lini* sp. nov. is described from Taiwan, China. Photographs of habitus and genitalia, as well as ecological pictures are presented. The holotype is deposited in National Museum of Natural Science, Taiwan, China. Paratypes are deposited in National Zoological Museum of China, Institute of Zoology, Chinese Academy of Sciences and several private collections.

Key words Saperdini; *Eutetrapha*, new species; Taiwan

1 Introduction

Up to now, 15 species of *Eutetrapha* are recorded (Lin *et al*, 2006; Pu, 1986; Pu and Jin, 1991; Hua, 2002; Ohbayashi and Niisato, 2007). Recently, a beautiful new species from Taiwan is discovered.

The first available specimen was collected from East part of Taiwan by Mr. LIN Wen-Hsin in 1999. It was noticed as a new species immediately by the first author of the paper. Chou (2004) presented a picture of the first specimen but he incorrectly mentioned this specimen as *Paraglenea* sp. and identified it as a male. This picture attracted more and more insect-fans to find this beautiful species and finally enough material was collected.

After carefully examining the series of materials, we realized that they belong to *Eutetrapha* Bates, 1884, instead of *Paraglenea* Bates, 1866. These two genera are quite similar, especially in females. But they can be distinguished by the claws of males: in male of *Paraglenea*, all the claws are appendiculate (Fig. 12); in male of *Eutetrapha*, only anterior claws of fore and mid tarsi are appendiculate with small teeth (Figs. 13F, L1, L2).

2 Materials and Methods

Materials were deposited in the following institutions; museums and private collections; abbreviations as shown in the text.

CCCC: Collection of Mr. CHEN Chang-Chin, Tianjin, China

CWIC: Collection of Dr. CHOU Wen-I, Taiwan, China

CWSL: Collection of Mr. LIN Wen-hsin, Taiwan, China

CYTC: Collection of Mr. CHUNG Yi-Ting, Taiwan, China

IZAS: Institute of Zoology, Chinese Academy of Sciences, Beijing, China

NMNST: National Museum of Natural Science, Taiwan, China

Methods followed Lin *et al*. (2009).

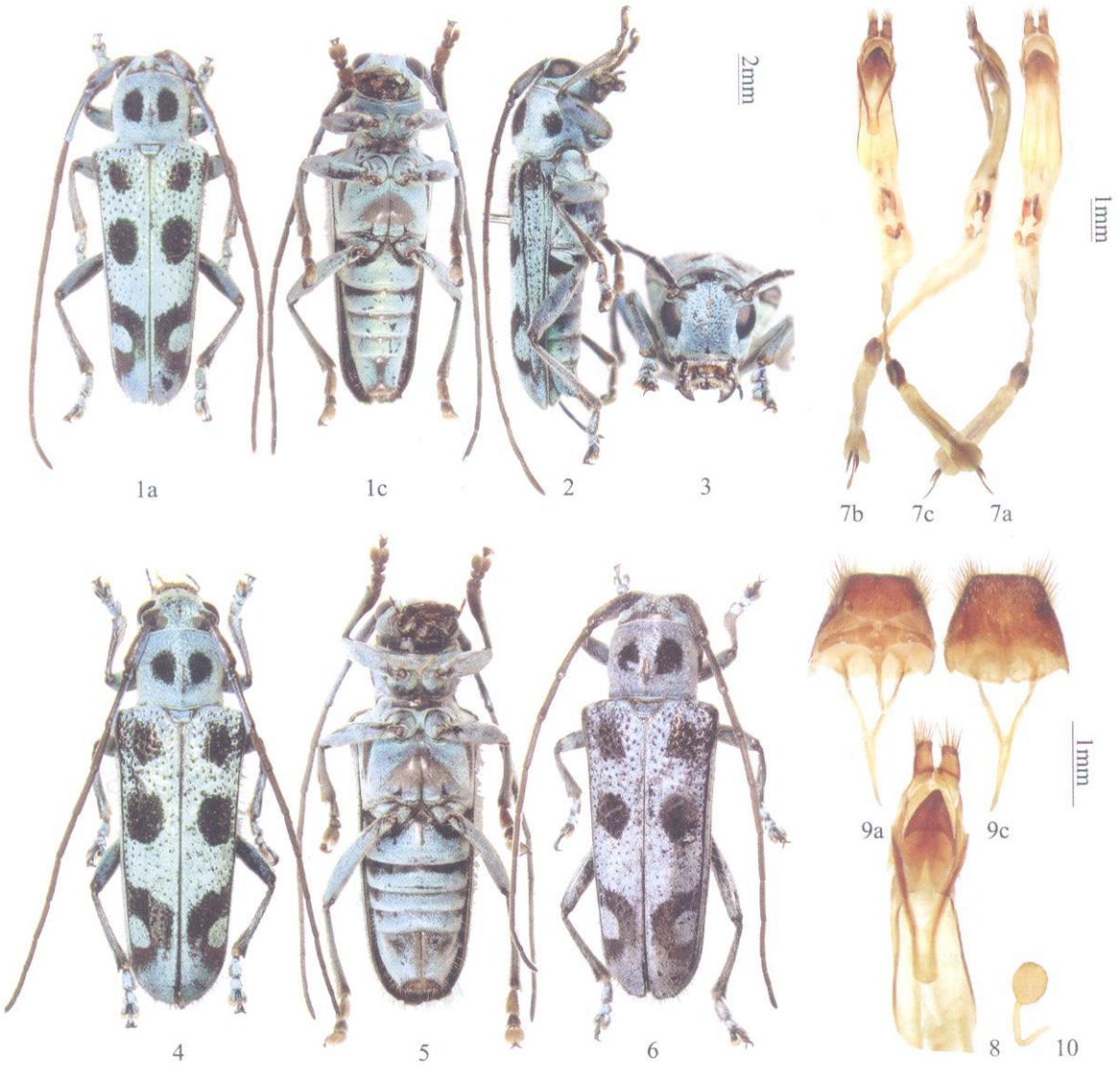
Eutetrapha lini **sp. nov.** (Figs. 1-10, 14-16)

Description. Male, length 13.2-14.0 mm, humeral width 4.2-4.4 mm. Female, length 13.8-16.0 mm, humeral width 4.7-5.3 mm. Body black, covered by metallic blue (Figs. 1-5) to purple blue (Fig. 6) squama except some black markings. Antennae black, sparsely pilose below. Prothorax with 4 black markings: two elliptical ones on the disc, a rounded one on each lateral side. Whole scutellum covered with metallic squama. Each elytron with 4 black markings: a small one on humeral angle (in lateral view, Fig. 2); an almost rounded one obliquely located on basal 1/5; third being a quite large rounded spot, located before middle of elytron; the fourth being a black arc, opening to lateral margin, located on middle of apical half. Ventral surface densely clothed with metallic squama, with some black spots (Fig. 1c). Legs black, covered with metallic blue squama. The inferior eyelobe much longer than the gena below it. Antennomere ratio: male: 17: 3: 20: 16: 17: 16: 16: 15: 14: 13: 14; female: 18: 3: 20: 17: 18: 17: 17: 16: 15: 14: 15. Elytron with punctures larger and sparser than that of *E. chrysochloris* (Figs. 17-21), hardly emarginated apically, with a very small tooth at outer angle. Male claws: only anterior claws of fore and mid tarsi appendiculated

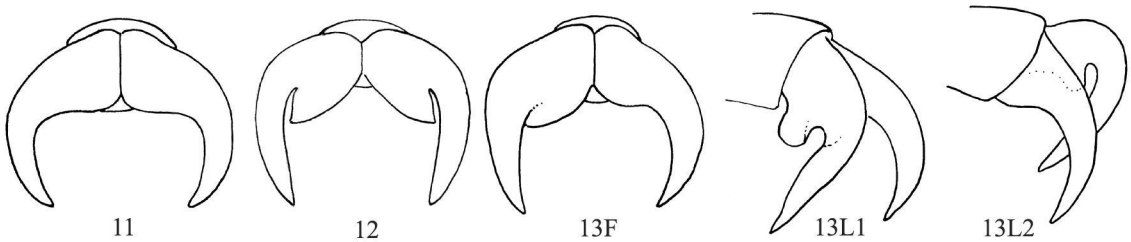
This research was supported by a grant (O529YX5105) from the Key Laboratory of the Zoological Systematics and Evolution of the Chinese Academy of Sciences and by NSFC program J0930004.

* Corresponding author, E-mail: linmeiying@ioz.ac.cn

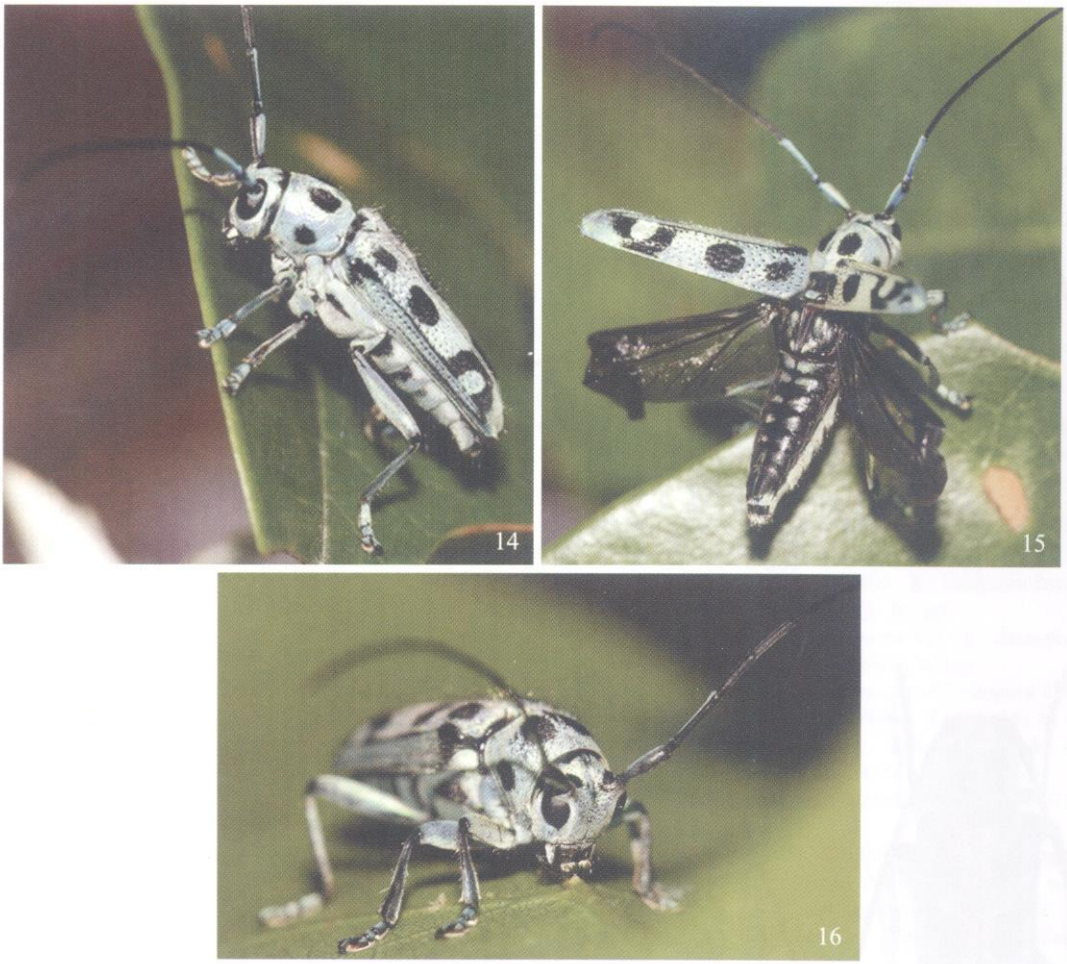
Received 28 Oct. 2009; accepted 5 Feb. 2010



Figs. 1-10. *Eutetrapha lui* sp. nov. 1-6. Habitus. 1. Holotype, male. 1a. Dorsal view. 1c. Ventral view. 2. Paratype, male, lateral view. 3-6. Paratypes. 3-6. Female. 3. Frontal view. 4. Dorsal view. 5. Ventral view. 6. Dorsal view of individual with purple blue colors. 7-10. Genitalia. 7. Male genitalia. 7a. Ventral view. 7b. Lateral view. 7c. Dorsal view. 8. Focus on lateral lobes of tegmen and apex of median lobe, in ventral view. 9. Tergite Ⅷ and ventrites Ⅷ, Ⅸ. 9a. Ventral view. 9c. Dorsal view. 10. Spermathecal capsule. Scale bars= 1 mm.



Figs. 11-13. Claws figs. 11. Simple. 12. Appendiculate. 13. Special kind of appendiculate (only anterior claw appendiculate with a small tooth). F. In frontal view, L1. In lateral view, L2. In another side of lateral view.



Figs. 14-16. *Eutetrapha lini* sp. nov. (ecological pictures taken by Mr. CHUNG Yi-Ting). 14. Standing on the upperside of a leaf (23 Apr. 2009, 20: 55). 15. Beginning to fly (23 Apr. 2009, 20: 56). 16. Eating on the underside of a leaf (23 Apr. 2009, 23: 12). All in Beijing time.

with small teeth (Fig. 13), posterior claws of fore and mid tarsi and claws of hind tarsi all simple.

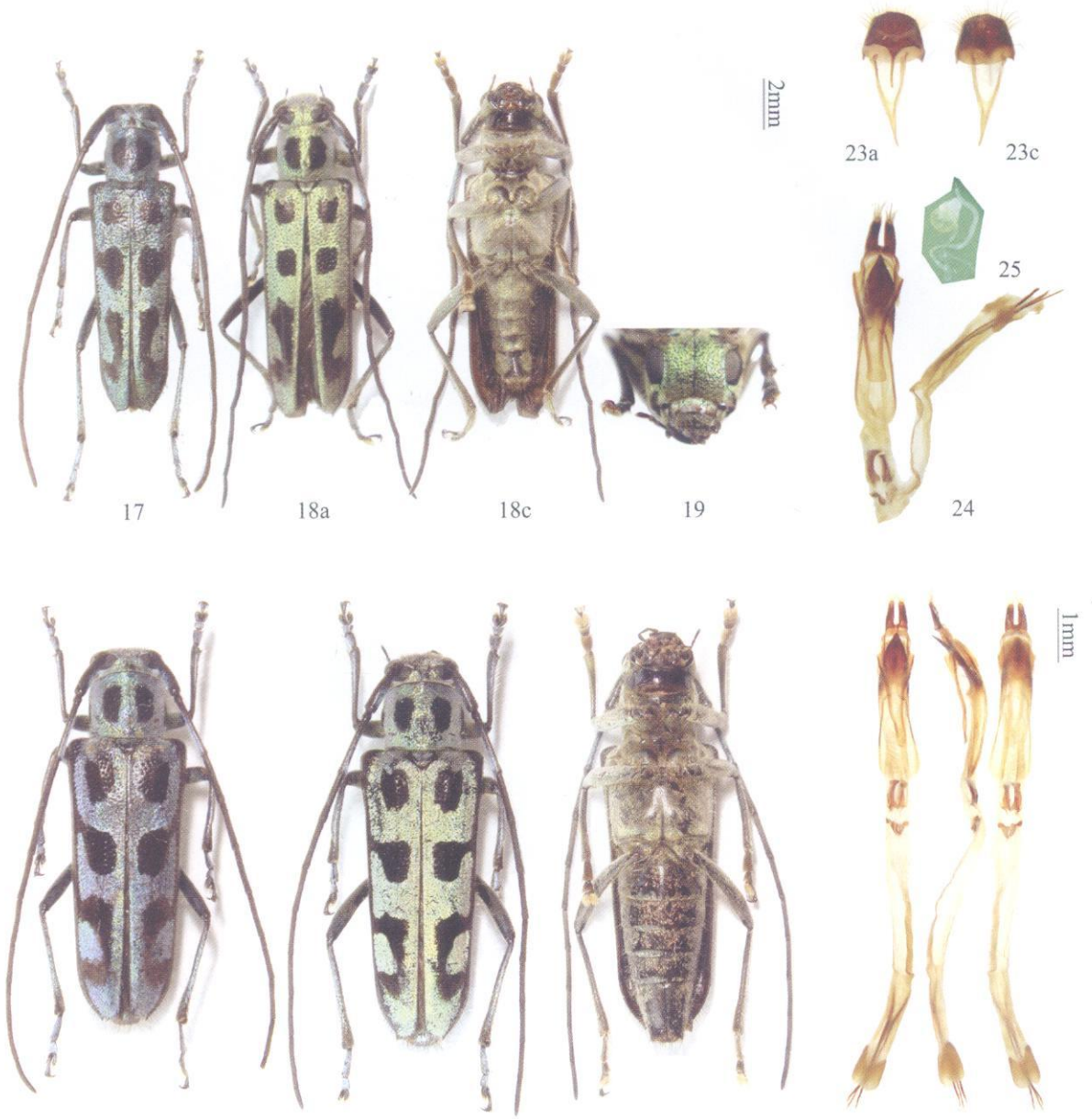
Male terminalia (Figs. 7-9). Tegmen 2.8 mm in length; lateral lobes stout, about 0.3 mm long and 0.2 mm wide, with one finely haired ridge basally (in ventral view, Fig. 8), apex obliquely truncated, with setae subequal to lateral lobes in length; basal piece bifurcated distally; median lobe with median struts slightly curved and slightly longer than tegmen (15: 14); median struts longer than a half of the whole median lobe; dorsal plate shorter than ventral plate; apex of ventral plate nearly rounded; median foramen forming an acute triangle; internal sac more than 3 times of whole median lobe in length, with 4 pieces of basal armature, 2 bands of supporting armature, a strongly sclerotized part (at the apical 1/3) and 3 subequal rods; rods slightly shorter than tegmen. Tergite Ⅷ with apex truncated, setae longer and denser at two sides and shorter and sparser in middle. Ventrite Ⅸ subequal to ringed part of tegmen. Female genitalia: spermathecal capsule (Fig. 10) composed of an apical orb and a curved stalk, stalk about twice as long as apical orb. Tignum longer than abdomen. In our observation, tignum 9.7 mm for an adult with a 7.5 mm abdomen in ventral view.

Diagnosis. It differs from *Paraglenea* spp. by male with only anterior claws of fore and mid tarsi appendiculate, remainders all simple (all males claws in *Paraglenea* appendiculate, Fig. 12). Also the metallic squama is not present in *Paraglenea* spp.

It is similar to *Eutetrapha chrysochloris* (Bates, 1879), but can be distinguished by the characters in Table 1.

Etymology. Name after Mr. LIN Wen-Hsin (Taiwan, China), who discovered this new species and offered the materials.

Remarks. *E. lini* sp. nov. is a nocturnal species, being attracted by light trap. The second author of the paper had been observed its flying and eating at night (from 20: 50 to 24: 00), as showed in Figs. 14-16. It



Figs 17-25. *Eutetrapha chrysochloris* (Bates). 17-21. Habitus. 17-20 *E. chrysochloris chrysochloris*. 17-18 Male; 19-20 Female. 18a Dorsal view. 18c Ventral view. 19 Frontal view. 20 Dorsal view of individual with purple blue colors. 21 *E. chrysochloris chrysargyrea*, female. 21a Dorsal view. 21c Ventral view. 22-25 Genitalia. 22 Male genitalia of specimen from Japan. 22a Ventral view. 22b Lateral view. 22c Dorsal view. 23 Tergite Ⅷ and ventrites Ⅷ, Ⅸ. 23a Ventral view. 23c Dorsal view. 24 Male genitalia of specimens from Shaanxi, China, in ventral view. 25 Spermathecal capsule, with spermathecal gland. Scale bar= 1mm.

is very probably monophagous. Mr. Chung found out the host plant by long time observation. But to avoid too many people going to collect specimens and making this species difficult to survive, we think it is not the time to publish its host plant.

Distribution. China, Taiwan.

Type specimens. Holotype: male, Taiwan, Taitung County, Soca (22°15′N, 120°50′E), 16 May 2009, leg. CHUNG Yi-Ting (NMNST). Paratypes: 1 female, Taitung County, Soca, 7 July 1999, leg. LIN Wen-Hsin (CWSL); 1 female, Taitung County, Soca, Da-Ren Hsiang (township), alt. 500 m, 30 June 2006, leg. CHOU Wen-I (CWIC); 3 males 3 females, Taitung County, Soca, 16 May 2009, leg. CHUNG Yi-Ting (1 female in CYTC, 1 male 2 females in IZAS, 1 male in CWIC,

Table 1　The comparison of the difference between E. chrysochloris **and** E. lini **sp. nov.**

Characters	*E. chrysochloris*	*E. lini* sp. nov.
Appearance color	Metallic green to purple green	Metallic blue to purple blue
Punctures on elytra	Smaller and denser	Larger and sparser
Black arc on the apical half of elytron	Quite elongated	Almost rounded
Elytral apex	Obliquely truncated, apical tooth at the outer angle obviously seen in dorsal view	Slightly truncated, somewhat appeared rounded, apical tooth at the outer angle hardly seen in dorsal view
Lateral lobes of tegmen	Slender, about 0.4 mm long and 0.1 mm wide (Figs 22, 24)	Stouter, about 0.3 mm long and 0.2 mm wide (Figs 7-8)
Apex of ventral plate	Quite sharply pointed (Figs 22a, 24)	Nearly rounded (Figs 7a, 8)
Apex of male tergite Ⅷ	Slightly projected, with dense setae in the middle (Figs 23a, 23c)	Truncated, hardly with setae in the middle (Figs 9a, 9c)
Spermathecal capsule	Stalk only slightly longer than apical orb (Fig. 25)	Stalk about twice as long as apical orb (Fig. 10)

1 male in CWSL); 2 females, same data but 29 Apr. 2009 (1 female in CCCC, 1 female in NMNST); 1 male, same data but 23 Apr. 2009 (CCCC); 1 male, same data but 2 Apr. 2009 (CYTC).

Acknowledgements　We wish to express our heartfelt thanks to Mr. LIN Wen-Hsin and Mr. CHEN Chang-Chin (Taiwan), for their passion on collecting insects and supporting of excellent specimens. Special thanks to Dr. Nubuo Ohbayashi, Mr. Toshihito Ito and Mr. Satoshi Maru (Japan) for sending us materials from Japan for comparison. We thank Dr. GE Si-Qin, Dr. ZHANG Kui-Yan (IZAS) and Mr. LIN Yu-Long (Taiwan) for improving this manuscript.

REFERENCES

Bates, H. W. 1866. On a Collection of Coleoptera from Formosa, sent home by R. Swinhoe, Esq., H. B. M. Consul, Formosa. *The Proceedings of the Scientific Meetings of the Zoological Society of London*, 44 [1866]: 350-380.

Bates, H. W. 1884. Longicorn beetles of Japan. Additions, chiefly from the later collections of Mr. George Lewis, and notes on the synonymy, distribution, and habits on the previously known species. *The Journal of the Linnean Society of London. Zoology*, 18: 205-262, pls 1-2.

Chou, W-I. 2004. Iconography of longhorn beetles in Taiwan. Owl Press, Taiwan, 408 pp.

Gressitt, J. L. 1951. Longicornia Vol. Ⅱ: Longicorn Beetles of China. Paul Lechevalier, Paris, France. 667pp.

Hua, L-Z. 2002. List of Chinese Insects Vol. Ⅱ. Zhongshan (Sun Yat-sen) University Press, Guangzhou. 612pp.

Lewis, G. 1879. On certain new species of Coleoptera from Japan. *The Annals and Magazine of Natural History, London*, (5) 4: 459-467.

Lin, M-Y., LI, W-Z. and Yang, X-K. 2006. Male description of *Eutetrapha velutiofasciata* Pic, with a new synonym (Coleoptera: Cerambycidae: Lamiinae: Saperdini). *Zootaxa*, 1371: 65-68, 14 figs.

Lin, M-Y., Montreuil, O., Tavakilian, G. and Yang, X-K. 2009. Reinstatement of the genus *Heteroglnea* Gahan, with four new combinations, four new synonyms and three new species (Coleoptera: Cerambycidae: Lamiinae: Saperdini). *Zootaxa*, 2137: 1-22, 50 figs.

Ohbayashi, N. and Niisato, T. 2007. Longicorn Beetles of Japan. Tokai University Press, Kanagawa. 818pp., 22 figs, 130 pls. color.

Pu, F-J. 1986. A new species of the genus *Eutetrapha* from Shennongjia, Hubei, China (Coleoptera: Cerambycidae, Lamiinae). *Acta Zootaxonomica Sinica*, 11 (2): 201-202. [动物分类学报]

Pu, F-J. and Jin, G-T. 1991. Systematic study of the Chinese Longicorn Beetles, Genus *Eutetrapha* (Coleoptera: Cerambycidae: Lamiinae). *In*: Zhang, G-X. (ed.), 1991. Scientific Treatise on Systematic and Evolutionary Zoology. China Science and Technology Publishing House, Beijing. 189-198.

台湾天牛新种林氏直脊天牛描述 (鞘翅目, 天牛科, 沟胫天牛亚科, 楔天牛族)

周文一[1,2]　钟奕霆[3]　林美英[1*]

1. 中国科学院动物研究所, 动物进化与系统学院重点实验室　北京　100101
2. 德霖技术学院休闲事业管理系　台湾台北　23654
3. 有壳氏生态社　屏东台湾　91243

摘　要　描述了台湾天牛新种林氏直脊天牛, 给出了成虫整体彩色照片和外生殖器照片, 并提供了生态照片。正模标本保存在台湾国立自然科学博物馆, 副模标本分批保存在中国科学院动物研究所及数个私人收藏馆。

林氏直脊天牛, 新种 Eutetrapha lini **sp. nov.** (图 1~10, 14~16)

新种与粗绿直脊天牛 *Eutetrapha chrysochloris* (Bates, 1879) 近似。二者的区别在于: 新种外部显示颜色为金属蓝色至紫蓝色; 鞘翅刻点较大而稀疏; 鞘翅端半部的黑色弧形斑较圆; 鞘翅末端微切, 多少显示为圆形, 背面观几乎看不到端

* 通讯作者.

缘角突; 阳基侧突较粗短, 长宽比小于 3; 中茎腹片末端较圆钝, 不强烈尖突; 第 8背板末端横切, 中央部分稀有刚毛; 受精囊主体柄长度约为末端球体长度的 2倍。

正模 ♂, 台湾台东县寿埤 (22°15′N, 120°50′E), 2009-05-16, 钟奕霆采 (NMNST)。副模: 1♀, 台湾台东县寿埤, 1999-07-07, 林文信采 (CWSL); 1♀, 台湾台东县达仁乡寿埤, 海拔 500 m, 2006-06-30, 周文一采 (CWSL); 3♂♂, 3♀♀, 台东县寿埤, 2009-05-16, 钟奕霆采 (CYTC, IZAS, CWIC, CWSL); 2♀♀, 地点同前, 2009-04-29 (CCCC, NMNST); 1♂, 地点同前, 2009-04-23 (CCCC); 1♂, 地点同前, 2009-04-02 (CYTC)。

词源: 新种名出自标本采集人林文信先生, 以其姓氏命名。

关键词 楔天牛族, 林氏直脊天牛, 新种, 台湾.
中图分类号 Q969.511.4